

NEW SPECIES AND NEW COMBINATIONS OF CRITONIINAE FROM
MESOAMERICA (EUPATORIEAE: ASTERACEAE)

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ABSTRACT

Koanophyllon jinotegense R.M. King & H. Robinson is described as new from Nicaragua, *Eupatorium siltepecanum* B. Turner is transferred to *Critonia*, *Eupatorium heathiae* B. Turner is transferred to *Adenocritonia*, and *A. steyermarkii* is described as new. A key is provided for the three species of *Adenocritonia*.

KEY WORDS: *Koanophyllon*, *Adenocritonia*, *Critonia*, Eupatorieae, Asteraceae, Mesoamerica

A review of the Mesoamerican species of *Koanophyllon* shows that a number of specimens from central Nicaragua represent a previously undescribed species. The description is as follows:

Koanophyllon jinotegense R.M. King & H. Robinson, *sp. nov.* HOLOTYPE: NICARAGUA. Jinotega: Along road from Hwy 3 to La Fundadora; ca. 13° 02-04' N, 85° 54-55' W, elev. 1200-1400 m; cafetales, pastures and patches of cloud forest; collected with O.M. Montiel. Tree 6 m tall. 9 Dec 1983. *W.D. Stevens 22543* (US; Isotypes: MO, TEX). PARATYPES: NICARAGUA. Jinotega: Same locality as holotype; collected with P. Moreno & R. Riviere. Tree ca. 8 m tall, heads white, 28 Sep. 1982, *W.D. Stevens 21852* (MO, US). Matagalpa: Cordillera Central de Nicaragua; Finca Santa María de Ostuma, wet montane cloud forest area, alt. 1300-1500 m. Tree to 8 m, in clearing. Nov. 30 - Dec. 4, 1973. *L.O. Williams & A. Molina R. 42694* (F, US); vicinity El Porvenir 4 km E of Santa María de Ostuma, common in clearing of forest, alt. 1500 m. Oct. 30, 1968. *A. Molina R. 22884* (F, US).

Plantae frutescentes et arborescentes 3-8 m altae mediocriter ramosae; caules teretes dense patentiter pilosuli vel hirtelli. Folia opposita, petiolis 0.5-2.5 cm longis hirtellis; laminae herbaceae ellipticae plerumque 10-17 cm longae 2.5-4.5 cm latae base breviter acuminatae margine serratae apice anguste acuminatae supra et subtus plerumque glabrae in nervis tenuiter puberulae subtus interdum fere ad nervam puberuliores, nervis secundariis pinnatis utrinque 4-5, nervis basilaribus ad marginem mediocriter conniventibus. Inflorescentiae late pyramidaliter paniculatae, ramis patentibus dense pyramidalibus. Capitula 5-6 mm alta; involucrium ca. 3.5-4.5 mm longum; bracteae involucri ca. 12 ovatae vel oblongo-lanceolatae plerumque 2.0-4.5 mm longae 0.8-1.2 mm latae breviter acutae. Flores 15-16; corollae albae 2.5-3.3 mm longae, tubis 0.8-1.0 mm longis, faucibus 1.7-2.0 mm longis, lobis ca. 0.7 mm longis et 0.6 mm latis; thecae antherarum ca. 1 mm longae; appendices antherarum breves duplo latiores quam longiores. Achaenia ca. 2 mm longa in superficiis superne tenuiter setulifera; setae pappi 2.5-3.0 mm longae in latitudo uniformes.

Specimens of the new species have been previously identified as the species now known as *Koanophyllon hylonomum* (B.L. Robins.) R.M. King & H. Robinson and *K. pittieri* (Klatt) R.M. King & H. Robinson, but both of the latter differ by the puberulous rather than pilose or hirtellous pubescence of stems and inflorescence branches, and by the shorter, obtuse or round tipped rather than longer acute tipped involucrial bracts.

Two Chiapas species of *Eupatorium* recently described by Turner (1990) both show characters of *Critonia* mixed with features normally found in other genera. One of the species clearly falls within *Critonia*, but it has many floral features of *Bartlettina*. The mixture looks like it might be the result of intergeneric hybridization of the type suggested for other elements of the tribe (King & Robinson 1987, p. 11). The second species has more of the general aspect of a *Critonia*, but it has glandular punctations on the leaves more like *Koanophyllon* or *Chromolaena*. It is placed here in *Adenocritonia* along with a new species from Guatemala. The new combinations and description are as follows:

Critonia siltepecana (B. Turner) R.M. King & H. Robinson, *comb. nov.*
 BASIONYM: *Eupatorium siltepecanum* B. Turner, *Phytologia* 69:123.
 1990. HOLOTYPE: MÉXICO. Chiapas: near Siltepec, *Matuda 5156* (LL).

The leaves of the species have what Turner (1990) calls "pustulate blisters." These are well developed, internal vesicles of the type found in the tribe only in *Critonia*. The species is more pubescent than most species of *Critonia* but falls

fully within the overall variation of pubescence found in the genus. The species has short, crowded heads, small involucral bracts, funnellform corolla limbs, and puberulous corolla lobes with 1-2 glandular dots that give the superficial appearance of a *Bartlettina* rather than a *Critonia*, and it has a few hairs on the receptacle and some unusual mammilosity on the style branches. Nevertheless, there are no unquestionable characters of the subtribe Hebeclininae to which *Bartlettina* belongs. The hairs on the receptacle are fewer and coarser than those found in the Hebeclininae, and the achene base is totally Critoniinae.

The species can be placed in the recent key to Mesoamerican *Critonia* (Robinson 1990) before couplet 10. At that point the species can be distinguished by the densely puberulous stems versus pilose or glabrous stems, heads ca. 5 mm long versus 6-15 mm long, funnellform versus tubular corolla limbs, and the puberulous versus mostly glabrous corolla lobes. The internal vesicles of the leaves are mostly rounded as in the first group under couplet 10, and the heads are essentially sessile as in the second group of couplet 10. The leaf venation is pinnate, but the secondary veins are ascending at angles of ca. 45°.

Adenocritonia heathiae (B. Turner) H. Robinson, *comb. nov.* BASIONYM: *Eupatorium heathiae* B. Turner, *Phytologia* 69:122. 1990. HOLOTYPE: MEXICO. Chiapas: Mapastepec, *Heath & Long 1128* (TEX!).

Adenocritonia heathiae is discussed below under the following new species.

Adenocritonia steyermarkii H. Robinson, *sp. nov.* HOLOTYPE: GUATEMALA. San Marcos: Between La Vega ridge along Río Vega and NE slopes of Volcán Tacaná, to 3 miles from Guatemala-México boundary, in vicinity of San Rafael, along stream; alt. 2500-3000 m. Shrub 10 ft. tall; corolla lilac; leaves dull green, sticky, subcoriaceous. Feb. 20, 1940. *Steyermark 36183* (F). PARATYPES: GUATEMALA. Quezaltenango: Region of Boxantín, southeast of San Martín Chile Verde, wet sandy quebrada; alt. about 2400 m. Shrub 2 m tall; heads pinkish. Jan. 18, 1941. *Standley 83777* (F); Mountains southeast of Palestina, on old road to San Juan Ostuncalco, damp mixed hillside forest; alt. 2550-2850 m. Jan. 21, 1941. *Standley 84223* (F).

Plantae fruticulosae ad 2.5 m altae mediocriter ramosae; caules pallide fulvi evanescentiter puberuli. Folia opposita, petiolis 2-5 cm longis; laminae ovatae plerumque 7-15 cm longae et 3.5-10.0 cm latae base obtusae vel subacutae margine dense serratae apice acutae vel vix acuminatae supra et subtus sparse glandulopunctatae supra puberulae et densius puberulae in nervis primariis subtus in nervis et nervulis puberulae, nervis secundariis ascendentiter subpinnatis prope basim tenuibus et ad marginem subparallelibus vel conniventibus, nervis secundariis validissimis prope

quaternis inferioribus leniter trinervatis. Inflorescentiae in ramis foliiferis terminales subpyramidales 12-16 cm altae et 9-12 cm latae, ramis dense corymbosis, ramulis ultimis 0.5 mm longis dense puberulis. Capitula c. 9 mm alta anguste campanulata; bracteae involucri substramineae 16-18 subimbricatae valde inaequales 3-4 seriatae interiorissimae facile deciduae omnes breviter oblongae vel lineari-oblongae plerumque 1.5-5.0 mm longae 1.0-1.5 mm latae apice rotundatae extus 3-striatae et puberulae; receptacula plana glabra. Flores 5 in capitulo; corollae lavandulae anguste infundibulares 6.0-6.5 mm longae, tubis c. 2.5 mm longis, faucibus c. 3 mm longis, lobis c. 0.5-0.7 mm longis utrinque laevibus extus glandulopunctatis; thecae antherarum c. 1.8 mm longae; appendices antherarum oblongo-ovatae c. 0.40-0.45 mm longae et c. 0.3 mm latae; appendices stylorum anguste spathulatae. Achaenia prismatica 5-costata c. 3.5 mm longa dense minute glandulifera in costis interdum minute puberula non setulifera; setae pappi albae c. 40 plerumque 3.5-4.5 mm longae apice tenuiores.

The two species have the aspect of a *Critonia* but have glandular punctations on the leaves. The combination of characters readily places the species in *Adenocritonia*. The latter genus has been known from a single Jamaican species, *A. adamsii* R.M. King & H. Robinson. *Adenocritonia* has been noted (King & Robinson 1987, p. 302, 303) for the shorter anther appendage of its type species. The length of the anther appendage is useful for separating various other genera such as *Critonia* and *Critoniadelphus*, but the longer appendage of the Chiapas species and the new species are not considered here as adequate reason to make a generic distinction between them and *Adenocritonia* of Jamaica. Besides the anther appendage difference, the Jamaican species has more attenuate bases on the leaf blades, more numerous basal bracts of the involucre, more stramineous and less striated involucre bracts, and achene surfaces with a few glands rather than short setulae or many small glands. The new species is individually distinctive in the short tips of its leaves, the width of its stems and leaves, and the size of its marginal teeth, its heads, and its glanduliferous achenes. Specimens of the new species had previously been identified as *Eupatorium luzii* B.L. Robinson and *E. oresbioides* B.L. Robinson, species belonging to the remotely related genus *Bartlettina*. The three species may be distinguished as follows.

1. Anther appendages half as long as wide; involucre with 3-5 series of congested minute bracts at base, inner bracts with scarcely depressed striations, with depressed glandular punctations; leaf bases and tips narrowly acuminate, upper surfaces of midveins subglabrous. *A. adamsii*

1. Anther appendages as long as wide or longer; involucre with only a few isolated minute bracts at base, inner bracts with three distinctly depressed striations, without obvious depressed glandular punctations; leaf bases obtuse to short acute, not or scarcely acuminate, upper surfaces of midveins distinctly puberulous.
2. Leaf apices narrowly acuminate, leaf margins crenulate-serrulate; heads c. 6 mm high, with 4 florets; achenes c. 2 mm long, with distinct setulae on ribs and upper sides, without glands.
 *A. heathiae*
2. Leaf apices acute or shortly acuminate, leaf margins closely and coarsely serrate; heads c. 9 mm high, with 5 florets; achenes c. 3.5 mm long, without distinct setulae, with numerous minute glands on surface. *A. steyermarkii*

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